The geographic maldistribution of health providers is one of the most persistent problems affecting the U.S. health care system. For example, even though the 1990s were marked by rapid expansion in the absolute and relative number of practicing physicians, many small rural areas continue to face physician shortages. Across the country, rural communities still struggle to attract an adequate number of health professionals of all types to provide high quality care to local residents (Rosenblatt & Hart, 1999).

The very nature of rural areas fosters provider shortage and maldistribution. Low population density in general, and smaller numbers of people who can afford health care in particular, make it difficult to sustain financially viable health services, especially in the context of the trend toward managed care. In addition, long distances to health care facilities—especially to tertiary care hospitals—and scarcity of a variety of specialists discourage providers from practicing in remote rural locations because these factors limit providers’ options for referrals, emergency care, and call coverage. Finally, while many health providers enjoy living in rural areas, research shows that the majority of providers, especially female providers, prefer to live in urban areas. These structural barriers create a need for special programs to promote the training, deployment, and support of rural health professionals (Rosenblatt & Hart, 1999).

A complex mix of federal, state, and private programs has been developed to address—either directly or indirectly—rural health professional shortages. Federal and state health policies play an essential role in supporting local rural health care systems and the providers whom they employ. For example, without Medicare funding for the elderly, or establishment of rural health clinics, the health care delivery system in rural communities would be seriously compromised. Other programs and policies designed to reduce rural health care provider shortages include federal ameliorative programs such as the National Health Service Corps (NHSC), Community Health Clinics, international medical graduate (IMG) visa waiver programs (e.g., the Conrad-30 Program), and state-based student loan repayment programs. The Small Rural Hospital Flexibility Program, which includes the Critical Access Hospital Program, is helping to create a small rural community environment that is more conducive to the recruitment and retention of health care providers. Changes have also occurred in the education of physicians, with overdue attention to the production of primary care providers and the preparation of providers for rural practice.

Although such efforts have improved the supply of health professionals in some rural areas, we remain far from ensuring equitable health care in small and remote communities. Certain trends suggest that rural-urban disparities will persist well into the future, as described in Chapter 2. For example, the tendency of many health care providers to choose specialist disciplines undermines access of rural communities to generalist physicians and other providers. The increasing numbers of female physicians, physician assistants, and other providers, coupled with their lesser propensity to locate in rural areas, may further diminish the supply of rural providers. Other issues that influence the makeup and availability of rural providers, usually in an indirect manner, include Medicare reimbursement policies, initiatives designed to promote quality of care, privacy guarantees, and managed care.

Any solution to the seemingly intractable problem of health care provider shortages in rural America requires sustained, concerted and multidimensional efforts on the part of many parties, including local citizens, providers, and state and federal government policy makers. Ensuring an adequate supply of health professionals will not, on its own, solve the myriad challenges involved in guaranteeing adequate health care in rural America. But it is a necessary step. To reduce the shortage of rural health care providers, it is critical that policy makers and program implementers better understand the nature and complexity of rural health workforce issues and concepts. Only then can we optimize the outcomes we obtain from our scarce public investments.

To that end, this volume presents workforce statistics, trends, and conceptual tools to help policy makers comprehend and address key health workforce issues in rural communities. As we explained in Chapter 3, understanding the rural health workforce is far from simple. Even defining rural areas proves complicated. Different categorizations exist, and each one has its own strengths and weaknesses. In addition, gathering data about such a basic question as how many providers work in rural areas is currently problematic; accurate, nationally consistent, and timely data are available for very few provider types. Other considerations include methods for counting basic provider supply and associated problems with the use of head counts and inappropriate geographic scales.

Despite such methodological considerations, several national patterns stand out. Chapter 4 illustrates the wide variation across the 50 states in terms of demography, and provider supply and training. These comparisons illustrate...
the power and utility of comparing workforce data across states, but they address only a sample of the issues and information that are important to health care policy. Too often our knowledge of rural workforce is local in nature, leading to myopic vision, programs, and policies that do not take into account major differences among rural areas of the United States. We encourage policy makers and analysts to refer to these figures to evaluate the national health workforce more effectively. For example, analysts can examine comparative state data and see that their state is ranked lowest in the amount of rural training taking place within that state for a particular provider type. This observation provides a broader context in which to frame health workforce policy issues and upon which to develop informed policy directions.

Until now, little research showed how rural areas within states differ in terms of the health care workforce. Chapter 5, the crux of this volume, presents specific workforce data for each of the 50 states. The information provides the opportunity to examine rural intrastate variations in provider supply, temporal changes in interstate supply, and to make interstate comparisons. This information is provided to help policy makers, program managers, and policy analysts understand the context of the health workforce situation within their state and others.

This monograph has barely scratched the surface of the issues associated with the rural health workforce. We have included only selected health provider types, for example. Among provider types that we have not included—because there are little or no data available—are some that are critical to the health of rural populations. Furthermore, Chapters 2 and 3 have only briefly and selectively discussed the complex concerns related to the analysis and interpretation of rural health workforce issues. For instance, we did not discuss the various workforce models (e.g., supply, demand, need) or all the various types of relevant data (e.g., provider-based data on vacancy rates). In order to give some additional information about these and other issues, we conclude with a section entitled “Rural Health Workforce Resources,” where readers will find references to materials and Web sites that delve more deeply into many of the subjects we discuss throughout this monograph.

Many additional health workforce policy issues will arise at the federal, state, and local levels during the next 10 years. A recent rural health research agenda-setting conference (hosted by the National Rural Health Association in Washington, D.C., 13 August 2000) produced a list of high priority policy and research questions, from which the following questions are modified (Hart, Salsberg, Phillips, & Lishner, 2002). They are not meant to be inclusive, but to provide readers with ideas about the types and breadth of rural health workforce issues that need to be addressed. The questions highlight physicians because we know the most about their demographics and practice patterns. It is essential that we develop a similar level of knowledge about other provider types, particularly given the increasing role of mid-level providers (e.g., physician assistants and nurse practitioners) in the health care system.

SPECIALTY AND GEOGRAPHIC DISTRIBUTION
- How does the preponderance of generalist physicians and other types of providers in small and remote rural towns influence the type of clinical care provided, and are there consequent outcome differences?
- How has the distribution of physicians and other types of providers changed over time at the sub-county level per the rural-urban continuum?

CHANGE IN DISTRIBUTION ACROSS TIME
- Can generalist physicians be fiscally rewarded enough to practice in adequate numbers in small and remote rural towns and, if they can, what will it cost and how will this influence clinical care?

GENDER AND AGE DISTRIBUTION
- How will the growing number and percentage of female generalist physicians entering practice influence access to physician care within small and remote rural communities? What effects will arise from changes in the gender distribution of other specialties, such as nurses?
- Are there practice, training, and community approaches conducive to increasing the number of female generalist physicians who locate and remain practicing in small and remote rural communities?

DISTRIBUTION BY REGION
- What are the factors that cause the significant regional maldistribution of rural providers? Should we be concerned about the maldistribution, and what practical policies could change the provider distribution?

QUALITY OF CARE
- Is the care provided for chronic conditions by rural generalist providers less intense than that provided by their urban counterparts, and do the differences translate into different patient outcomes?

RECRUITMENT AND RETENTION
- Do IMGs who locate in underserved rural towns continue to practice there?
- How would a change in IMG policy affect rural care?
Conclusion: Rural Health Care Workforce Issues for the 21st Century

RURAL TRAINING
• What is the best model of education for rural areas, and how can graduate medical education funds best be distributed to rural sites to cover training costs?
• If rural generalist residency training programs are substantially increased in size, will the rural provider yield justify the expense?
• What are the ramifications of the increasing debt that medical students are incurring regarding their ability to then practice in small rural towns?
• How does the amount of federal funding for training affect medical school and residency production of rural and inner-city generalist physicians?

PRODUCTIVITY AND INCOME
• Are female physicians fairly reimbursed for the rural care they provide compared to their male counterparts?
• Are rural female physicians more or less productive than male physicians, and what are the workforce supply and clinical care consequences of differences in productivity?

REIMBURSEMENT AND MANAGED CARE
• Are reimbursement pressures and red tape overhead increasing the minimum viable size of rural practices, and how will this influence access to care for millions of small- and remote-town rural residents?
• How does the deterioration of components of the rural health care delivery system influence physician recruitment and retention?

FEDERAL AND STATE AMELIORATIVE PROGRAMS
• Is the NHSC more cost effective in producing rural physicians than expanded residency training programs?
• How effective are the Medicare Incentive Payment bonus payments in helping to retain generalist physicians within shortage areas?

MALPRACTICE INSURANCE
• What are the rural workforce and care ramifications of recent dramatically increased malpractice premiums?

SAFETY NET
• Does the safety net work in small and remote rural towns where there is no publicly-funded facility, and if it does work, who pays the cost of care?
• How do rural providers clinically treat indigents when their care is either not paid for or paid for at a deep discount?
• How effective will the increase in federally-funded health clinics be at treating those without access to care and will they be able to find adequate workforce staffing?

TELEHEALTH
• Will clinical telehealth prove to be practical for rural health generalist providers in towns that have provider shortages, and will it increase retention by reducing physician isolation?
• How will clinical telehealth influence generalist provider practice in towns with provider shortages? To what extent and at what cost can it increase the health status of rural populations?

PROVIDER TYPE SCOPE OF PRACTICE OVERLAP
• What are the most efficient and effective provider type configurations for small rural towns and within clinics?

THE NURSING SHORTAGE
• How is the registered nurse shortage influencing rural health care, and what policies and programs can lessen its impact?

The development of a rural health care workforce policy and research agenda under circumstances of scarce resources requires difficult judgments about the health care system. It takes accurate and unbiased data to inform the debates and to facilitate better policy decisions. Only through more thoughtful and informed health workforce policies and decisions can we materially improve the rural health care delivery system and the health of rural populations. Finally, it is paramount to remember that no vision of the future of rural health can come to fruition if it does not promote stable, rewarding, and fulfilling professional and personal lives for rural health care providers.